

NOTES ON AUSTRALIAN DIPTERA. XXII.

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(Communicated by Dr. I. M. Mackerras.)

(Two Text-figures.)

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In this paper I present a few notes on the family Ortalidae which I have had lying beside me for some time, and because of the fact that I have now become engaged in a study of the family Tachinidae and also have to undertake some work on another order of insects, I have decided to publish them now rather than wait until I can put into the press a more comprehensive treatise on the family.

Genus CELETOR Loew.

This genus because of its possession of two pairs of orbital bristles and its robust build will run down to Caption 3 in Hendel's key to the tribes of Platystominae (*Abh. Zool.-Bot. Ges. Wien.* 8, heft 1, 1914, 3). He relegates it to his Section E, which contains forms with the abdomen broadly ovate, broadest near the base, rather than to Section D in which the abdomen is spindle-shaped, broadest in the middle and narrowed at base and apex. The distinction between these two Sections is by no means sharply drawn, and it is frequently the case that it is necessary to run doubtful forms through not only both of their keys to genera, but also through Section C in order to discover their generic location. The genus now under consideration has the lower calypter small, about as large as the upper one, the arista bare, third antennal segment more than twice as long as wide, with a pointed upper apical angle, the face concave, without a central carina, the prosternum haired, metanotum bare; mesopleural bristle present, dorso-central and acrostichal bristles one pair, scutellum haired, first posterior cell of wing slightly and gradually narrowed to apex, anal cell not lobed and the inclination of the vein at its apex outward below, and the femora normal.

Hendel segregates the genus with several others on the possession of a distinct sternopleural, but in the specimens before me that bristle is not clearly differentiated. The genus does not bear a close relationship to *Scholastes* Loew, next to which it is placed in Hendel's arrangement, nor is it closely related to *Lamprogaster* Macquart which immediately precedes it in the same paper, and I am inclined to think that it is out of place in this tribe, though I am not prepared definitely to remove it therefrom.

There are two species of the genus, both of them occurring in Australia, which Hendel separates as below.

- A. Thorax and scutellum glossy black; base of wing with net-like black-brown markings; sides of face shining reddish-brown *dentipes* Macquart
- AA. Thorax and scutellum bright steel-blue; base of wing without net-like markings, with broad complete black-brown fascia; sides of face snow-white *caerulea* Macquart

CELETOR DENTIPES Macquart.

I have not seen this species. Hendel records it from Sydney, N.S.W., and New Zealand. If the last mentioned record is based upon Schiner's "*Novara*" material, and it appears to be so, it is very probably erroneous. I have received a large collection of Acalypttratae from Mr. A. Tonnoir from New Zealand and there is no species in any manner resembling this one amongst them. In fact the family is very poorly represented in that country judging from my material.

CELETOR CAERULEA Macquart.

Four specimens from Sydney, N.S.W. (Froggatt). United States National Museum.

Hendel gives the same records as for the preceding species and the same doubt as to the authenticity of the New Zealand record must be expressed. Many of the species recorded by Schiner as from New Zealand do not occur there and are really from Australia.

Genus DASYORTALIS Hendel.

This genus is readily distinguished from any other in the subfamily by the dense hairs on the eyes, the presence of two pairs of orbital bristles, the plumose arista, and the presence of bristles on the upper side of the fifth wing-vein on the entire extent of the anal cell. The antennal foveae are shallow, the mouth margin slightly produced, mesopleural bristle present, sternopleural absent, lower calypter very short, femora normal, posterior inclination of the vein closing anal cell towards base of wing, first posterior cell not narrowed at apex, hind coxae bare at apices above bases of femora, abdomen with four basal visible tergites of female subequal, ovipositor broad.

No species of the genus has been recorded from Australia up to the present, but in all probability some of them will yet be found in the northern section, as all four now known are from New Guinea.

DASYORTALIS COMPLENS Walker.

I have seen this species from the Solomon Islands, July-August, 1909 (W. W. Froggatt), and Kaiser Wilhelmsland (R. Schlechter). The first specimen is in the United States National Museum, the other in the Deutsches Entomologisches Museum, Berlin-Dahlem.

Genus DUOMYIA Walker.

In a previous paper in this series (These PROCEEDINGS, 53, 350), I have briefly referred to this genus and its affinities, at the same time recording the occurrence of the genotype, *obscura* Walker, in two Australian localities. More recently I received some additional material which belongs to the genus as accepted by Hendel, and in attempting to identify them by the key in Hendel's paper, already referred to above, met with but indifferent success. I have therefore been compelled to make a careful analysis of the forms involved, some of the results of which I present below.

In my previous paper I separated the genus from *Euprosopia* Macquart by its lacking setulae on the upper surface of the basal section of the stem vein of the wing, and having microscopic hairs on the apices of the hind coxae above the bases of the femora. But some species placed in *Duomyia* by Hendel lack the

hind coxal hairs and I must either modify my definition or realign the species. It is unfortunately not possible with the material in hand for me to give a complete synoptic key to the Australian genera of the subfamily, which is the only reliable method that will permit of definite identifications by others, but I have tried to present in my papers such characters as appear to me to be dependable for generic recognition. Later on I hope to have the material to present a complete generic key for the Australian genera.

In *Duomyia* in Hendel's sense, it seems possible to make use of the presence of erect hairs on the suprasquamal ridge for the separation of the genus from its closest allies. If we resort to this expedient, we find that it is possible to divide the Australian species into two groups, one with hairs on the disc of the scutellum and the hind coxae bare at apices above bases of femora, the other without hair on the disc of the scutellum, and with microscopic hairs on the apices of hind coxae above bases of their femora.

In the first group I place *tomentosa* Hendel, and possibly *sericea* Hendel also belongs here, while the second group will contain *obscura* and probably all the other Australian species, though there are at least two rather well defined groups in this aggregation also. I propose a new subgenus for *tomentosa* Hendel, basing it upon the characters cited in the preceding paragraph.

Subgenus DUOMYZA, nov.

Subgenotype, the following species.

DUOMYZA (DUOMYZA) TOMENTOSA (Hendel).

A rather pale species owing to the presence of quite dense grey dust covering the metallic greenish thorax and abdomen, augmented to some extent by the numerous pale yellow hairs on these parts. The scutellum is normally testaceous yellow, but sometimes the disc is partly dark. Hendel had but one female before him when he described the species, and the small dark spot on the anterior side of each tibia beyond the middle was either lacking or overlooked by him; it is present in all specimens I have examined. The fourth visible abdominal tergite of the female is usually testaceous at the apex. Wings hyaline, veins yellow.

The antennae are more widely separated than in the other species of the genus, the facial carina is widened from above to lower extremity, with fine vertical striae which converge above, and the other edge sharply carinate; arista bare; scutellum with four black marginal bristles.

Length, 7-12 mm.

Localities.—Kuranda and Herberton (Dodd), Townsville (G. F. Hill), and Bribie Is., January, 1914, no collector's name.

The first two from the Lichtwardt collection in the Deutsches Entomologisches Museum, Berlin-Dahlem, the last two from the C. F. Baker collection in the U.S. National Museum, Washington, the locality label on the last specimen in indifferent writing and hard to decipher.

I suspect that this species may be the same as *scutellaris* Macquart, the only difference between it and Macquart's description lying in the brownish-black frons of the latter.

Subgenus DUOMYZA Macquart.

Hendel in his key to the species of the genus segregates two groups: "Stirne grob runzelig, uneben." and "Stirne flach, eben, höchstens fein punktiert." The distinction is difficult for a novice to comprehend, as some of the species that

fall in the second segregate have the frons so coarsely punctured, at least anteriorly, that it may be really considered as rugose or wrinkled. However, the members of the first segregate known to me have no distinct frontal punctures except on the sides anteriorly, and all of them have more or less pronounced elevations or humps centrally, and to a lesser extent on sides, which elevations are lacking in the forms with centrally impunctate frons of the other segregate. In fact the prominent hump or convexity just in front of the anterior ocellus in the group with uneven frons is lacking in all the species of the second group.

The species of both the above groups now available to me may be distinguished as in the synoptic key below.

Key to the Species.

1. Fore femur with some short stout black posteroventral spines or bristles apically* 2
 Fore femur without short stout posteroventral bristles, sometimes with a more or less evident longitudinal ridge or elevation beyond middle on that surface .. 3
2. Fore femur with the posteroventral bristles very strong, spine-like, extending from well basad of the middle to the apex, the ventral edge in profile regular (Fig. 1a); scutellum entirely glossy, without a trace of dusting .. *spinifemorata*, n. sp.
 Fore femur with the posteroventral bristles not exceptionally strong, confined to the apical third beyond a quite pronounced elevation on same surface (Fig. 1b); scutellum glossy, the surface except margin with quite distinct whitish dust. *irregularis*, n. sp.
3. Frons anteriorly deeply pitted or punctured on entire width, flat or slightly depressed above in front of the anterior ocellus 4
 Frons without evident punctures or pits on central portion anteriorly, always with some more or less noticeable humps or elevations, one of these between ocelli and middle of frons quite pronounced 5
4. Both cross-veins and the apex of wing distinctly clouded with dark brown; facial carina not much widened below, its width at mouth margin not half as great as length of the third antennal segment *decora* Macquart
 Cross-veins and the apex of wing without dark clouds; facial carina much widened below, its width at mouth margin subequal to length of the third antennal segment *punctifrons*, n. sp.
5. Wings not at all darkened at apices, only the subcostal cell dark; facial carina flat, with pronounced vertical furrows; antennae and palpi black *obscura* Walker
 Wings distinctly darkened at apices and in costal cell; facial carina not distinctly furrowed 6
6. Cloud in costal cell separated from the apical one by a clear space; facial carina flat below; palpi black; antennae not nearly twice as long as face at centre *maculipennis* Hendel
 Cloud in costal cell connected with the one at apex along the costa; facial carina rounded below; palpi testaceous yellow; antennae about twice as long as face at centre *nigricosta*, n. sp.

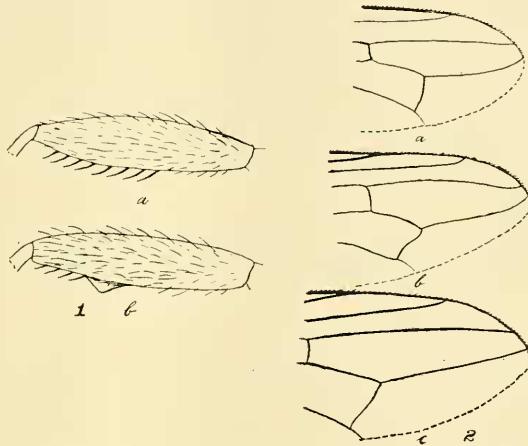
DUOMYIA (DUOMYIA) SPINIFEMORATA, n. sp.

Male.—Head testaceous yellow; occiput black, glossy across upper fourth, silvery-white below, vertex, ocellar spot and upper orbits shining black, sides of frons and parafacials narrowly yellowish-white-dusted, lunule shining black; cheeks usually brownish, lower portions of the antennal foveae darkened; antennae and palpi brownish-yellow. Thorax metallic blue-green, white-dusted along the lateral margins of the mesonotum in front of the suture, and narrowly along the latter, but not on its entire extent; mesopleura whitish-dusted above and behind; scutellum without dusting. Abdomen metallic violet-blue, hairs on the sides pale, on the disc black. Legs black, bases of tibiae more or less noticeably yellowish,

* Possibly only a male character as I possess only that sex of both species.

basal two or three segments of mid and hind tarsi whitish-yellow, their apices darker. Wings hyaline, costal cell brown, a faint brown cloud at apex of costa, and the inner cross-vein very faintly darkened. Calyptrae white. Knobs of halteres lemon-yellow.

Frons about one and a half times as wide as one eye, flat and smooth, with traces of a few shallow punctures on sides anteriorly, ocellar, orbital and post-vertical bristles undeveloped, the four verticals of moderate length; antennae about two-thirds as long as face, third segment wider than parafacial; arista haired on



Text-fig. 1.—Fore femora of *Duomyia* species. *a*, *D. spinifemorata*; *b*, *D. irregularis*.

Text-fig. 2.—Apical venation of wings of species of *Duomyia*. *a*, *D. spinifemorata*; *b*, *D. tomentosa*; *c*, *D. maculipennis*.

basal third, the longest hairs fully half as long as width of third antennal segment; facial carina sharp on edges, foveae not extending to level of mouth, the carina at lower level not as wide as the length of third antennal segment. its surface flat and smooth. Thorax with numerous piliferous punctures, the prescutellar acrostichals and dorsocentrals well developed; scutellum with six marginal bristles, the apical pair longest. Fourth visible tergite of abdomen very distinctly longer than second and third combined, without apical bristles. Fore and hind femora thicker than mid pair, only the fore pair armed ventrally. Inner cross-vein at about two-fifths from apex of discal cell; fourth vein curved forward at apex.

Length, 6-6.5 mm.

Type and five paratypes, Palmerston, N. Aust., December, 1908 (coll. Lichtwardt). In the Deutsches Entomologisches Museum, Berlin-Dahlem; one paratype deposited in the Australian Museum.

DUOMYIA (DUOMYIA) IRREGULARIS, n. sp.

This species is represented by a single male which has lost the head, so that it is not possible to give a full description of it.

In colour it differs from the preceding species in the whitish-dusted scutellum, the glossy black abdomen, and the wing with only the subcostal cell brown.

Structurally it differs in the form of the fore femora and their armature (fig. 1b).

Length, 6 mm.

Type, Palmerston, N. Aust., December, 1908 (coll. Lichtwardt). In Deutsches Entomologisches Museum, Berlin-Dahlem.

DUOMYIA (DUOMYIA) DECORA Macquart.

A rather small species, with much the same appearance as the two preceding species, but readily distinguished from them by the coarsely punctate frons, and clouded cross-veins of the wings. The antennae are as long as the face, and the facial carina is microscopically transversely striate. The legs are more largely rufous yellow than in the preceding species, only the fore femora being black, while the mid and hind femora are darkened at bases, and the tibiae and tarsi at apices. The fore femur has a slight ridge or carina on the posteroventral edge beyond the middle and many moderately long hair-like posterior bristles. Inner cross-vein close to middle of discal cell; fourth vein curved up at apex.

Length, 7 mm.

Locality, Botany Bay, N.S.W. (H. Petersen). Sent to me by C. F. Baker. Recorded by Hendel from Australia and Tasmania, without more definite locality.

DUOMYIA (DUOMYIA) PUNCTIFRONS, n. sp.

A larger species than *decora*, with the wings unmarked except for a yellow tinge in the costal cell, and the legs differently coloured. The frons is fuscous, with a greenish cast anteriorly, more brownish behind, the upper portion of occiput is shining black, yellow in centre, the lower portion yellowish testaceous, with whitish dust; face testaceous yellow, antennae and palpi rufous yellow, third segment of former largely brown. Thorax metallic blue-green, with faint traces of two linear submedian dark vittae, lateral margins of mesonotum and upper portion of mesopleura grey-dusted. Abdomen concolorous with thorax. Fore legs black, mid and hind pairs honey-yellow, coxae and apices of femora and tibiae more or less distinctly blackened, apical two segments of these tarsi fuscous. Wings hyaline, subcostal cell yellow or pale brown. Calyptres white. Halteres yellow, knobs brown.

Frons much as in *decora*, the two orbitals present, ocellars lacking; arista pubescent at base; antennae about four-fifths as long as face, third segment as wide as parafacial; facial carina microscopically transversely striate, without elevated edges. Thorax as in *spinifemorata*. Legs as in *decora*. Inner cross-vein at a little beyond the middle of discal cell; fourth vein curved forward at apex.

Length, 8.5 mm.

Type, Katoomba, Blue Mts., N.S.W., 3,400 feet, 1912 (Dodd), Deutsches Entomologisches Museum, Berlin-Dahlem.

DUOMYIA (DUOMYIA) OBSCURA Walker.

I have nothing to add to my previous records of this species. It would appear worth noting that while *tomentosa* and the *decora* group have the apical portion of the fourth vein curved forward close to its apex, in the *obscura* group, containing this and the next two species, the fourth vein ends almost straight (figs. 2a-2c). Sometimes there are one or two weak hairs on the sides of the scutellum in *obscura*.

In Hendel's key, *obscura* is compared with *thalassina* Walker, both running to the same caption, and it is distinguished from it by the presence of a black spot between the base of each antenna and eye, the broader parafacials, and the entirely black face.

I have not seen *thalassina*.

DUOMYIA (DUOMYIA) MACULIPENNIS Hendel.

This is, next to *obscura*, the largest species of the genus I have seen, the specimen before me measuring 12 mm. in length. The frons is shining black, with white-dusted lateral margins, and an almost linear longitudinal elevation in front of the anterior ocellus, the facial carina is quite broad above, the sides curve outward to above middle and from there to the lower level it is nearly equally broad, the lateral edges are not sharp, and the centre is microscopically shagreened; there is a slight transverse depression across the face at lower extremity of the carina and the epistome projects slightly. Antennae as long as face, third segment as wide as parafacial; arista bare; palpi black. Legs black, tibiae and tarsi reddish-yellow, apical four segments of fore tarsi fuscous, apices of mid and hind tarsi less evidently darkened. Wings quite distinctly yellow, subcostal cell and apex of costa from before tip of second vein brown. Calyptrae white. Knobs of halteres fuscous. All femora thickened, fore and hind pairs most noticeably so.

Herberton, Q., December, 1910, 3,700 feet (Dodd). Deutsches Entomologisches Museum, Berlin-Dahlem.

Described from Sydney, N.S.W., and North Australia.

DUOMYIA (DUOMYIA) NIGRICOSTA, n. sp.

Male and female.—Frons shining black, lateral margins with a white-dusted line which is continued down over parafacials, face glossy orange-yellow, blackened in antennal foveae and there distinctly silvery-white-dusted; antennae brown, second segment orange; labrum and palpi orange-yellow. Thorax and abdomen glossy metallic blue-green, the former whitish-dusted along the notopleural suture. Legs black, tibiae and tarsi yellowish-brown, fore pair darker, apical four segments, sometimes all, of fore tarsi, and the tip of fifth segment of other pairs, fuscous. Wings dark brown along the costa from apex of auxiliary vein to apex of fourth. Calyptrae white. Halteres brown.

Frons about one and a half times as long as wide, sharp at vertex, with two central elevations, the additional one at anterior margin, and some lateral wrinkles, the orbitals lacking; face short, the carina sharp only above, rounded and poorly margined on lower half of face; antennae nearly twice as long as face in centre; arista pubescent. Thorax as in the preceding species, the prescutellar acrostichals and dorsocentrals present, and the scutellum bare. Femora less swollen than in *maculipennis*.

Length, 8-9 mm.

Type, male, and allotype, Cairns, Q. (coll. Lichtwardt). Deutsches Entomologisches Museum, Berlin-Dahlem.

Of the species not identified in this paper, *laeta* Walker is a homonym of *Lamprogaster laeta* Guérin, and has therefore no standing at present; *sericea* Hendel, *thalassina* Walker, and *scutellaris* Macquart have been referred to in the text, *annulipes* Hendel and *azurea* Hendel belong to the section with punctate frons,

and *mithrax* Hendel belongs to the same section as *obscura*, running down to *maculipennis*, but distinguished from it by the short-haired arista and clouded outer cross-vein of the wing.

Genus EUPROSOPIA Macquart.

Amongst new material available to me I find one undescribed species, and specimens of some others which provide new locality records for the species they represent.

EUPROSOPIA PUNCTIFACIES Malloch.

Three specimens, Kuranda, Q., February, 1910, and one specimen, Cairns, Q., no collector's name. Deutsches Entomologisches Museum, Berlin-Dahlem.

EUPROSOPIA MILIARIA Hendel.

One specimen, Kuranda, Q., January, 1910, no collector's name. Deutsches Entomologisches Museum, Berlin-Dahlem.

This is the first recorded occurrence of this species in Australia.

EUPROSOPIA MACROTEGULARIA Malloch.

One female, Cairns, Q., 1907; one male, Kuranda, Q., February, 1910, no collector's name. Deutsches Entomologisches Museum, Berlin-Dahlem.

EUPROSOPIA SEPARATA Hendel.

Two specimens, Cairns, Q., 1907; two specimens, Kuranda, Q., February, 1910, no collector's name. Deutsches Entomologisches Museum, Berlin-Dahlem.

EUPROSOPIA CONJUNCTA Hendel.

Three specimens, Herberton, Q., January, 1911, 3,700 feet (Dodd).

EUPROSOPIA BIARMATA, n. sp.

Female.—Extremely like *conjuncta* Hendel, the wing markings almost the same, the only differences in my specimens being that in the costal cell there are but three dark marks besides the one at humeral cross-vein instead of four or five, and the cell behind the stem of veins 2 and 3 is almost uniformly fuscous instead of having four or more transverse dark streaks. The apex of the scutellum is dark brown and, though shining, is not glossy as in *conjuncta*, and the legs are brownish-yellow, with the apices of tibiae darker, and the tarsi black, with basal segment except the tip white.

Structurally similar to *conjuncta*, differing in having the tegular process stouter, slightly clubbed at apex, and below it on the pleura a sharp-pointed lanceolate process which is directed forward and about as long as the tegular one. In *conjuncta* this second process is represented by a very short thorn. The first visible abdominal tergite lacks the yellow scale-like apical hairs of *conjuncta*, the hairs being all slender. The scutellum is not so noticeably sulcate at apex, and the lateral elevations are therefore less prominent than in *conjuncta*.

Length, 8.5 mm.

Type, Herberton, Q., 3,700 feet, February, 1911 (Dodd). Deutsches Entomologisches Museum, Berlin-Dahlem.

In my previously published key this species will be difficult to place because it is about intermediate between the group with sulcate and that with non-sulcate scutellum. If it is placed in the former the characters cited above will dis-

tinguish it from *separata*. If on the other hand it is placed in the second segregate it will run down to Caption 4, where it is distinguished from *miliaria* by the fasciate wings, and from the species listed in the following captions by the four scutellar bristles and the pleural process, as well as by other characters.

EUPROSOPIA TIGRINA Osten-Sacken.

This species looks like a small *tegularia* Malloch, but the wings are differently marked, having a narrow dark fascia from the stigma over the entire width of wing, a broader one over the outer cross-vein which narrows posteriorly, and between that one and apex of wing a complete fascia which connects with the apical spot on the costa. The pleura has a central yellow-dusted vitta, the mesonotum has three such vittae, as has also the abdomen. The legs are black, with the bases of mid and hind tibiae broadly yellowish, and the basal segment of tarsi reddish-yellow, least noticeably so on the fore pair, the hind pair more whitish.

Arista of male with an apical palette, tegula of same sex slightly produced forward, scutellum narrowly rounded at apex and with four bristles.

Length, 8 mm.

Kaiserwilhelmsland, Minjam River (R. Schlechter). In the Lichtwardt collection, Deutsches Entomologisches Museum, Berlin-Dahlem.

The only record since its original description. Not known from Australia.

Genus PTEROGENIA Bigot.

This genus is distributed over the Orient and southward to Australia, two species, *latericia* Hendel and *nubecula* Hendel, occurring in Queensland. It is entirely probable that some of the species which occur in New Guinea may yet be found to occur in the northern portion of Australia.

I have seen no Australian examples of the genus, but expect later to return to it in one of my papers.

Genus NAUPODA Osten-Sacken.

This genus is rather similar to the preceding one, differing essentially in wing venation and some other details.

The distribution of the genus differs from that of *Pterogenia* in that there are several African species. Only one Australian species has been recorded, but it is not unlikely that some of the other species may extend their range into Australia.

NAUPODA REGINA Hendel.

This species has been very well described and the wing figured by Hendel in the paper already referred to, so that it is not necessary at this time to deal further with it.

Cairns, 1907, and Kuranda, Q., February, 1910 (coll. Lichtwardt). Deutsches Entomologisches Museum, Berlin-Dahlem.

Genus LAMPROGASTER Macquart.

Since the publication of my paper dealing with the species of this genus known to me, I have received a number of specimens, mostly from the Lichtwardt collection, through the courtesy of Dr. Walther Horn, of the Deutsches Entomologisches Museum. This material contains a male of *pumicata* van der Wulp.

described from a similar example from the same locality, New Caledonia, and not seen by Hendel when he wrote his paper on the subfamily, as well as a series of what I take to be *laeta* Guérin, also unknown to Hendel. I still lack representatives of *apicalis* Walker, *maculipennis* Macquart, *vella* Walker, *jucunda* Walker, *unimacula* Hendel, *poecila* Hendel, and *hilaris* Walker, of the recorded Australian species. Of those, besides the species he described, Hendel had seen only *jucunda*, so that the generic reference may not be accurate in all cases. I present below a key to the species now before me.

Key to the Species.

1. Scutellum without fine hairs in addition to the marginal bristles 9
 Scutellum with either the entire surface or a portion on each side haired 2
2. Wings entirely without dark markings, at most with the inner cross-vein very slightly darkened 3
 Wings with quite evident dark markings on costa 5
3. Mesonotum with a well developed pair of prescutellar acrostichal bristles; general colour of dorsum rufous, with a conspicuous metallic blue tinge, the mesonotal hairs and bristles black; scutellum slightly sulcate at apex centrally
 *elongata* van der Wulp
 Mesonotum lacking distinguishable prescutellar acrostichal bristles 4
4. General colour of dorsum of thorax and abdomen deep metallic violet-blue; face with a dark streak on each side from antennal fovea to mouth; mesonotum with the bristles and hairs black *xanthoptera* Hendel
 General colour of dorsum of thorax and abdomen testaceous yellow, with a more or less evident metallic blue or violet tinge, the hairs on both yellow; face yellow
 *zelotypa* Hendel
5. Entire costal margin of wings broadly dark brown except in the costal cell, outer cross-vein with a conspicuous brown cloud; scutellum haired on entire disc
 *stenoparia* Hendel
 Wing with more or less conspicuous black or brown costal markings, but not with a complete costal brown mark 6
6. Scutellum haired on entire disc and with a quite conspicuous apical central sulcus; wing markings very indistinct except the one at apex of costa and a cloud on inner cross-vein; fourth visible abdominal tergite of male hardly longer than third; sides of mesonotum and entire pleura fulvous yellow, disc of former broadly blue-green, without grey-dusted vittae; scutellum fulvous yellow, with more or less distinct bluish tinge, not as dark as disc of mesonotum
 *indistincta* Malloch
 Scutellum haired on the sides of disc only, more or less broadly bare in centre; the costal markings very conspicuous, the dark mark over apices of basal cells not extending entirely to the costa 7
7. Second and third visible abdominal tergites of male extremely short, linear, their combined lengths not more than one-tenth as great as that of fourth tergite; legs rufous yellow, apices of femora, bases and apices of tibiae, and the entire tarsi, fuscous; outer cross-vein of wing quite broadly clouded with brown
 *viola*, n. sp.
 Second and third abdominal tergites of male not extremely short, their combined lengths more than half as long as that of fourth tergite; legs yellow, at most with the apices of tarsi slightly darkened; outer cross-vein at most very narrowly clouded 8
8. Fulvous yellow species, with more or less conspicuous metallic blue tinge, scutellum bluish-black and much darker than the mesonotum, the hairs on its sides and those on mesonotum pale; mesonotum without any trace of grey-dusted vittae
 *laeta* Guérin
 Metallic blackish-green species, the scutellum more distinctly shining than mesonotum, but not darker than it, the hairs on its sides sparse and, like those on disc of mesonotum, fuscous or black; mesonotum with three quite distinct grey-dusted vittae *pumicata* van der Wulp

9. Thorax fulvous yellow, with a broad metallic blue-green stripe on mesonotum on which are one or three grey-dusted vittae, the dark mark on costa at level of inner cross-vein deep black; outer cross-vein not clouded 10
 Thorax and abdomen metallic blackish-green or blue-green 11
10. Legs black, bases of tarsi brownish, mid and hind femora and tibiae in female sometimes more or less yellowish centrally; no distinct dark mark at apices of basal cells; the dark preapical spot on second vein extremely small
 *flavipennis* Macquart
 Legs honey-yellow, bases of fore femora, apices of tibiae and tarsi, darkened, the tibiae least evidently so; a conspicuous blackish mark at apices of basal cells of wing which extends to costa at humeral cross-vein; preapical spot on second vein moderately large *bicolor* Macquart
11. Thorax and abdomen metallic blackish-green, not highly polished, the mesonotum with three quite evident grey-dusted vittae; legs fulvous yellow, apical three segments of each tarsus brown or fuscous *pumicata* van der Wulp*
 Thorax and abdomen metallic blue-green, highly polished, the mesonotum without a trace of grey-dusted vittae; legs honey-yellow, fore femora sometimes slightly dark at apices, fore tibiae and tarsi, and the apical two segments of mid and hind tarsi, brown or fuscous *lepida* Walker

LAMPROGASTER ELONGATA van der Wulp.

Very similar to *zelotypa* Hendel, but distinguishable by the characters cited in the foregoing key.

Cairns, Q. (coll. Lichtwardt).

Recorded from New Guinea, Key Island and Molucca, but not previously known from Australia.

LAMPROGASTER XANTHOPTERA Hendel.

Three examples from New Pommern, taken by the same collector as, and evidently from the same lot as, the type. Not known from Australia.

LAMPROGASTER ZELOTYPA Hendel.

Two specimens. Cairns, Q., 1907 (coll. Lichtwardt).

LAMPROGASTER STENOPARIA Hendel.

Five specimens. Cairns, Q., 1907 (coll. Lichtwardt).

LAMPROGASTER VIOLA, n. sp.

Male.—Frons black, yellowish-grey-dusted along each side in front; parafacials with similar dust; face brownish testaceous, with dense grey dust in foveae and along carina adjacent to them; cheeks and occiput fuscous, the latter pale-grey-dusted; antennae brownish testaceous, third segment dark brown except at base; arista and palpi black. Thorax and abdomen brilliant metallic violet-blue, sides of mesonotum and pleura sometimes deep rufous brown, with overlying blue lustre, underside of scutellum and the metanotum coloured as pleura; thoracic and abdominal hairs black. Legs black, coxae castaneous, femora largely reddish-yellow basally, sometimes to apical third, tarsi entirely black. Wings yellow along costal half and with the usual four dark marks, the one at apices of basal cells faint, most evident in the apices of the cells and hardly visible costally, apical spot pale brown, outer cross-vein with a quite evident brown cloud. Calyptrae brownish, with brown margins. Halteres yellow, knobs fuscous.

* Because of the sparse hairing on the sides of scutellum this species is placed in the sections "with" and "without" scutellar hairs.

Each orbit with one moderately well developed upper bristle; antennae more than half of the face length; arista pubescent on basal fifth; cheek about twice as high as width of third antennal segment. Prescutellar acrostichal and dorso-central bristles well developed; the scutellum almost entirely haired, bare central area narrow, with six marginal bristles, and a broad shallow central apical depression. Abdomen rather pointed, fourth tergite about as long as hind femur, without apical bristles. Legs and wings normal.

Length, 13 mm.

Type and one paratype, Herberton, N.Q., 3,700 feet, January, 1911 (Dodd).

Type in Deutsches Entomologisches Museum, Berlin-Dahlem, paratype in Australian Museum.

LAMPROGASTER LAETA Guérin.

This species has much the appearance of *elongata*, but the scutellum is much more conspicuously blue than the mesonotum, and there are four dark marks on the costal portion of the wing, the one at apices of the basal cells not extending to the costa, and the stigmalal one tripartite, while the outer cross-vein is darker than the other veins, though not evidently clouded. Legs yellow, apical two or three segments of each tarsus slightly darkened.

Arista short-haired at base. Sides of the scutellum with some quite long pale hairs. Abdomen armed as in *pumicata*, but the bristles on the fourth visible tergite much shorter and weaker.

Length, 10-12 mm.

Herberton, N.Q., December, 1910, 3,700 feet (Dodd). Nine specimens. Two specimens will be sent to the Australian Museum.

First known record since the original description.

LAMPROGASTER PUMICATA van der Wulp.

This species has the frons black, the cheek with a large black-brown triangle, the legs yellow, with coxae and apical three segments of each tarsus brown, the dark mark over apices of the basal cells of wing not extending to the costa, the preapical one on second vein subquadrate and quite conspicuous, and the abdominal hairs mostly yellow.

The antennae are fully one-half of the length of the face, the arista has very short hairs, and the face is smooth on central carina. The prescutellar acrostichal and dorsocentral bristles are strong, and there are only a few black hairs on each side of the scutellum at base. First visible abdominal tergite with two short bristles in centre of apical margin, second with four such bristles, third and fourth each with a complete apical series, long on sides of third and on entire extent of fourth.

Length, 11 mm.

New Caledonia (Osten-Sacken). The collection label bears the erroneous locality "Neuseeland" above the name. Not known from Australia.

LAMPROGASTER LEPIDA Walker.

Herberton and Cairns, N.Q., 1907 (coll. Lichtwardt). Twenty-one specimens.